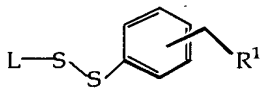
IT IS CLAIMED:

1. A method for administering mitomycin C to a multi-drug resistant cell, comprising

providing mitomycin C in the form of a liposome composition comprised of a vesicle-forming lipid and of between about 1 to about 30 mole percent of a conjugate having the general form:

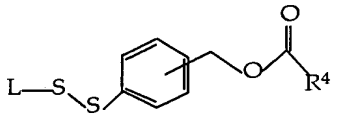


wherein L is a hydrophobic moiety suitable for incorporation into a liposomal lipid bilayer, R^1 is mitomycin C covalently attached to the dithiobenzyl moiety, and where orientation of the CH_2R^1 group is selected from the ortho position and the para position.

2. The method of claim 1, wherein said providing includes providing mitomycin C covalently attached by a urethane linkage.

3. The method of claim 1, wherein said providing includes providing a conjugate wherein L is selected from the group consisting of cholesterol, a diacylglycerol, and a phospholipid.

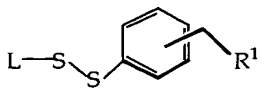
4. The method of claim 1, wherein said providing includes providing a conjugate comprising mitomycin C covalently linked to the dithiobenzyl moiety to form a conjugate having the structure:



wherein R^4 represents a residue of mitomycin C.

5. The method of claim 4, wherein a secondary amine moiety of R^4 forms a urethane linkage between the dithiobenzyl and mitomycin C.

6. A method for reducing the *in vivo* cytotoxicity of mitomycin C, comprising providing mitomycin C in the form of a liposome composition comprised of a vesicle-forming lipid and of between about 1 to about 30 mole percent of a conjugate having the general form:

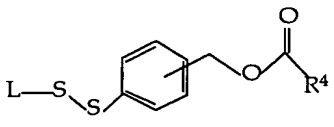


wherein L is a hydrophobic moiety suitable for incorporation into a liposomal lipid bilayer, R^1 is mitomycin C covalently attached to the dithiobenzyl moiety, and where orientation of the CH_2R^1 group is selected from the ortho position and the para position.

7. The method of claim 6, wherein said providing includes providing mitomycin C covalently attached by a urethane linkage.

8. The method of claim 6, wherein said providing includes providing a conjugate wherein L is selected from the group consisting of cholesterol, a diacylglycerol, and a phospholipid.

9. The method of claim 6, wherein said providing includes providing a conjugate comprising mitomycin C covalently linked to the dithiobenzyl moiety to form a conjugate having the structure:



wherein R^4 represents a residue of mitomycin C.

10. The method of claim 9, wherein a secondary amine moiety of R^4 forms a urethane linkage between the dithiobenzyl and mitomycin C.